Maryland Department of Health and Mental Hygiene

Information Resources Management Plan

Fiscal Year 2002

Healthy People in Health Communities

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Departmental Web Site: www.dhmh.state.md.us

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INFORMATION RESOURCES MANAGEMENT

Fiscal Year 2002

Introduction

The Maryland Department of Health and Mental Hygiene (DHMH), Information Resources Management Administration, developed the Information Resources Management Plan to promote the use of technology resources improve the services that are provided to the citizens Maryland and provide technology guidance to departmental units.

The Maryland DHMH Health Information Coordinating Council's Strategic Planning Workgroup developed the *Information Technology Strategic Plan*.   DHMH administrations submitted Information Technology Project Requests (ITPRs) to link agency initiatives to the budget.

The Planning Workgroup, which was comprised of cross-department representation, held brainstorming and break-out sessions; reviewed best-practices; and developed the plan as a cohesive group effort.

Purpose

The purpose of the Information Resources Management Plan is to provide a framework for the deployment of information resources vital to the fulfillment of the Maryland Department of Health and Mental Hygiene's (DHMH) mission. The mission of the DHMH is to promote the health of all Maryland citizens by providing health and support services; by improving the quality of health care for all; by providing leadership in the development and enactment of responsible and progressive health care policy and by serving as the advocate for public health initiatives and programs to improve the quality of life for all Marylanders. Maryland's public health is DHMH business.

The Department of Health and Mental Hygiene's information resources mission is to assure the confidentiality, integrity, availability and appropriate use of information to support the services offered to the citizens of Maryland.

The plan contains the information resources goals, objectives and strategies to ensure the delivery of health services to the citizens of Maryland.

Executive Summary

The goals of the Information Resources Management Plan are:

To provide quality information resources to The Department of Health and Mental Hygiene for planning and managing services to its customers.

To provide access to security of The Department of Health and Mental Hygiene information resources.

To provide for the internal and external integration of data and information.

To build a sound technological infrastructure.

To build a technologically proficient workforce.

The Department of Health and Mental Hygiene will implement the goals of this strategic plan utilizing the following guiding principles:

- The commitment to customer focused services.

- The commitment to efficient and effective automated systems to support health services to the public.

- The commitment to the evaluation and measurement of all information technology resources through outcomes and benefits to the public.

- The commitment to utilizing all information technology that is based on the available and proven technologies, which incorporate flexibility for the future enhancements.

- The commitment to maximizing access to services while ensuring confidentially and security.

- The commitment to the free exchange of public information.

Executive Leadership

The executive leadership of the DHMH, through the Maryland Health Information Coordinating Council (HICC) will ensure that the Department's investments in information resources are managed efficiently in support of the DHMH mission. In this, the HICC acts under the Secretary's charter of responsibility to make recommen- dations for information technology planning, budgeting, contracting, information resources management policies and standards, and access to and appropriate use of public health data.

The purpose of the HICC is to serve as a permanent, senior-level, decision-making and implementation body for carrying out the Department's information resources manage- ment responsibilities. As a department-wide partnership of all stakeholders, the HICC provides recommendations on essential components of information resources manage- ment program and the policies to the Director of the Department's Information Resources Management Administration.

The HICC represents all DHMH organizations and local health department partners through senior memberships. The HICC accomplishes its mission through workgroups which include non-members, on an ad-hoc or standing basis. The workgroups focus on broad or technical areas and produces plans, reports, recommendations, guidelines, and policies. HICC workgroups include the following areas:

- Data Guidelines, Standards and Use
- Internet/Intranet
- Security and Confidentiality
- Strategic Planning
- Communication and Learning
- Hospital Management Information Systems
- Geographic Information Systems
- Health Insurance Portability and Accountability
- Electronic Forms

The Executive Board of the HICC meets quarterly and is comprised of the Secretary, Deputy Secretaries, select senior-executive staff, and the co-chairs of the HICC. Recommendations And unresolved issues are presented to the Executive Board for review, comment and guidance.

The HICC provides the Department with an appropriate forum to conduct discussions, review and endorse policies, increase awareness and support for information resources management issues, and receive recommendations from senior managers regarding critical technology issues facing the Department, the State, our local partners, our constituency, and the public at large.

DHMH Information Resources Management

Overview

Effective information resources management (IRM) is essential to achieving the DHMH mission to fulfill public health goals and serve the citizens of Maryland. Emphasis is placed on critical Department-wide issues that support projects and services delivered at the program level. Strategic IRM directions focus activities that will successfully achieve IRM goals and position the Department for the future.

DHMH's success in its mission requires ready access to data, both by the Department's staff and by others. Having sound information policies and practices, and efficient, responsive information systems is a key priority of DHMH's senior management team. The Department is committed to gathering and analyzing the data needed to evaluate health risks and trends, measure health program results, and educate individuals throughout the State, make policy decisions, and implementation of interventions to effect change. DHMH is also committed to promoting and supporting innovative technical solutions to health information problems. A sound IRM program is critical to the Department's ability to provide objective, reliable, and understandable information for these purposes.

The DHMH, in order to optimize the limited resources, promotes the sharing of best practices among its units; as well as, information about emerging innovative technologies. The Department structures horizontal committees and teams that utilize resources from all units. This will result in joint ventures which benefit all participants and the State of Maryland.

The implementation of new or updated technologies include training and end-user support, an evaluation of the project, transition costs or benefits. These elements are collected and compared to the original benefits of the business process investigation to present to the administration for future planning and management.

Organization

The Department has 8,500 employees and an equal number of volunteers. DHMH staff are located throughout the state including its headquarters in Baltimore, 3 satellite headquarters offices, 17 residential state facilities and 24 local health departments. DHMH's Maryland's health agency, responsible for an organized system of programs and services to protect, maintain and improve the health of its citizens. Information Resources Management is provided both at the centralized level by the DHMH Information Resources Management Administration and through dedicated staff at the program level.

Hardware/Software Standards

HARDWARE STANDARDS

The purpose of these stands is to guide, in a consistent manner, the acquisition and support of standard information technology (IT) hardware configurations by the Department of Health and Mental Hygiene (DHMH) in order to achieve State IT goals. This standard is to be implemented upon the acquisition of new hardware. However, it is recognized that the acquisition of new hardware may require a phase-in period for full compliance because of compatibility and other impacts of replacing or upgrading legacy hardware.

DHMH has defined hardware configurations for the efficient and productive acquisition and Use of IT computing hardware in order to accomplish its mission and program goals.

In developing minimum hardware configurations, DHMH considered the following criteria:

- Total lifecycle cost
- Long –term support
- Interoperability
- Compatibility
- Scalability
- Availability/Accessibility
- Functionality/Performance
- Security
- Other specific criteria

The following configurations are defined as the minimum acceptable configurations for DHMH Based on an analysis of our requirements:

- **PERSONAL COMPUTERS**

  Standard Desktop PC Workstation
  Intel Pentium III, 600mhz Central Processing Unit (CPU)
  64MB RAM (Memory)
  6.0GB Hard Drive (Data Storage)
  4MB VRAM (Video Memory)
  3 ½ Diskette Drive
  CD ROM Drive
  10/100 Mbps Ethernet Adapter

15" Color Monitor

Keyboard
Mouse

Standard Laptop PC Workstation
Intel Pentium III, 450 mhz Central Processing Unit (CPU)
64MB Ram (Memory)
6.0GB Hard Drive (Data Storage)
3 ½ Diskette Drive
CD ROM Drive
12.1 TFT Screen
56K Modem
10/100 Mbps Ethernet Adapter
Mouse
Windows Operating System – See Software Standards

- **PERIPHERALS**

    Laser Printer – Network – Black & White
    Dual Input Bin
    10/100mbps Ethernet Adapter
    Designated "Network" Model
    15 Pages Per Minute
    1,200 x 1,200 dpi
    8MB RAM

    Laser Printer – Network – Color
    Single Input Bin
    10/100mbps Ethernet Adapter
    Designated "Network" Model
    16 Pages Per Minute, Black
    3 Pages Per Minute, Color
    600 x 600 dpi
    32MB RAM

    Inkjet Printer – Network – Color
    Single Input Bin
    10/100mbps Ethernet Adapter
    Designated "Network" Model
    8 Pages Per Minute, Black
    4 Pages Per Minute, Color
    600 x 600 dpi
    24MB RAM

    Laser Printer – Standalone
    Single Input Bin
    10 Pages Per Minute
    600 x 600 dpi
    4MB RAM

Inklet Printer – Standalone
Single Input Bin
8 Pages Per Minute, Black
3.5 Pages Per Minute, Color
1,200 x 1,200 dpi

Desktop/Laptop Network Adapters
10/100 Mbps 3COM or SMC, PCI if possible

SOFTWARE STANDARDS

The purpose of these standards is to guide the acquisition and support of commercial off-the-shelf (COTS) software by the Department of Health and Mental Hygiene (DHMH) in order to achieve State IT goals. This standard is to be implemented upon the acquisition of new software. However, it is recognized that the acquisition of new software may require a phase-in period for full compliance because of compatibility and other impacts of replacing or upgrading legacy software.

DHMH has defined minimum software configurations for the efficient and productive Acquisition and use of IT computing hardware in order to accomplish its mission and program goals. These standard software configurations are to be used on hardware specified in the DHMH Hardware Standard. These hardware and software configuration standards are interrelated and have been developed to reflect an overall IT architecture that complies with the State IT Master Plan.

In developing minimum software configurations, DHMH considered the following criteria:

- Total lifecycle cost
- Maintainability
- Interoperability
- Portability
- Scalability
- Availability/Accessibility
- Reusability
- Functionality/Performance
- Security
- Other specific criteria

The following configurations are defined as the acceptable COTS software for DHMH based on analysis of our requirements:

Desktop PC Workstation
Windows 2000 (Microsoft). Current statewide standard for use on all newly purchased hardware.
Windows 9X (Microsoft). Can be utilized until such time that the hardware is replaced, then goes to statewide standard.

Network Server
Netware 5.1, or higher (Novell)

- **PERSONAL PRODUCTIVITY**

  Desktop Virus Protection:
  Selection is deferred to the individual user for standalone systems or to the network
  Administrator for networked systems.

  Desktop Statistical Analysis:
  SAS 8.0, or higher (SAS Institute)
  SPSS (SPSS)
  EPIINFO (CDC)

  Email:
  Groupwise 5.5, or higher (Novell)

  Office Suite:
  Office 2000 Professional or Standard Edition (Microsoft). Current statewide standard
  for use on all newly purchased hardware.
  Office 9X (Microsoft). Can be utilized until such time that upgrade monies/hardware
  are made available, then move is made to the statewide standard.

  Web Browser:
  Netscape Navigator 4.5, or higher (Netscape)
  Internet Explorer 5.0, or higher (Microsoft)

- **DATA MANAGEMENT**

  Large Database Development
  Oracle 8, or higher (Oracle)

  Small Database Development
  Access 2000 (Microsoft). However, utilization of Access 97 is allowed until such time
  that upgrade monies/hardware are made available, then move is made to the statewide
  standard.

IRM Policies

  The Department has adopted information resources management (IRM) policies to
  establish standards, ensure appropriate use of communications technology, prevent
  software copyright infringement and coordinate and monitor the acquisition and use
  of information technology resources and assure that DHMH information is processed
  in a secure environment while providing citizens access to public information.

  Electronic Information Systems – provides guidelines for DHMH employees in the
  appropriate use of communications technology for business operations. Electronic
  information systems covered by the policy include telecommunications, computer
  systems and the Internet and DHMH Intranet.

  Copying Policy – provides DHMH employees with guidance on the use and copying of
  computer software and the prevention of software copyright infringement.

Policy on the Acquisition and Utilization of Information Technology Resources – designates the Information Resources Management Administration as having responsibility for coordinating and monitoring the acquisition and use of information technology resources within the Department.

System Life Cycle Management – establishes the life cycle management requirements for the DHMH automated information application systems.

Information Assurance Policy – provides guidelines for the secure handling of DHMH information as well as, provide the provision of public information to Marylanders.

Health Information Coordinating Council – establishes the Maryland Health Information Coordinating Council as a permanent, senior level, decision making and implementation body for carrying out the Department's information resources management responsibilities.

GOALS

1. **To provide quality information resources to improve services to our internal and external customers.**

Objectives

1.1   Standardize the systems development process by FY 2003.

- To achieve Level 1 Capability Maturity Model (CMM) by FY 2003.

- To achieve Level 2 Capability Maturity Model (CMM) by FY 2004.

- Continue development, implementation and review of information technology policies and standards that support the DHMH mission and that meet state standards through FY 2005.

- Assure through memberships on statewide information technology organization that statewide policies and standards support the DHMH mission.

- Continue to utilize and improve the DHMH process to develop and review policies and standards.

2. **To maximize access to and ensure security of information resources.**

Objective

2.1   To promote secure information resources.

- Establish an appropriate department-wide set of information and physical security standards, including disaster recovery and contingency plans by FY 2002.

- Establish a secure and reliable internet service environment by FY 2003.

- Assure that all DHMH units utilize DHMH centralized firewalls by FY 2004.

2.2 Develop a plan to comply with the rules and regulations issued by the Federal Department of Health and Human Services to implement the Health Insurance Portability and Accountability Act (HIPAA) of 1996 by FY 2002.

- Appoint a HIPAA project manager by FY 2001.

- Appoint a data coordinator for the HIPAA project within DHMH by mid 2001.

- Develop a project plan for the implementation of the HIPAA project within DHMH by mid FY 2001.

- Develop project rollout materials and briefing by mid FY 2002.

- Begin the process of providing guidance to department units as they implement the HIPAA guidelines by mid FY 2002.

2.3 Develop and implement a plan to comply with Governor's eGovernment initiative by mid FY 2001.

- Appoint an Administrator to manage the DHMH process and coordinate with the Department of Budget and Management on the implementation of the eGovernment initiative by FY 2002.

- Draft a project plan for the implementation of the eGovernment initiative within DHMH by FY 2002.

- Identify and inventory all potential business processes that are appropriate for implementation over the Internet by FY 2002.

- Web enable 50% of the business processes identified in FY 2001 inventory by FY 2003.

- Web enable 65% of the business processes identified in FY 2001 inventory by FY 2004.

- Web enable 80% of the business processes identified in FY 2001 inventory by FY 2005.

3. To promote internal and external integration of data and information by improving access to, linkage of, and appropriate sharing and use of the Department' electronic information.

Objectives

3.1   Complete an intranet-based directory by FY 2002.

3.2   Develop a minimum data standards set for the department by FY 2002.

3.3   Develop and institute a process for the implementation of data administration policies for warehousing, mining and storage by FY 2003.

3.4   Establish a central data repository to support department-wide data sharing by FY 2004.

3.5   Establish external connectivity to DHMH data systems to support teleworking and sharing of electronic data by FY 2004.

3.6   Assure that appropriate data is usable and accessible over the Internet by FY 2005.

4. To build a sound technological infrastructure.

Objectives

4.1   Expand electronic communications with internal and external customers using information resources through FY 2005.

- Conduct an assessment of DHMH employees electronic information needs by FY 2002.

- 25% of identified employees will be provided the capability to access electronic communications by FY 2002.

- 50% of identified employees will be provided the capability to access

electronic communications by FY 2003.

- 75% of identified employees will be provided the capability to access electronic communications by FY 2004.

- 100% of identified employees will be provided the capability to access electronic communications by FY 2005.

4.2   Provide the communication infrastructure to support telework initiatives as mandated by the State (10% of eligible employees) by FY 2003.

4.3   Improve the reliability of the information technology infrastructure to assure 98% availability in a 24 by 7 environment by FY 2003.

4.4   DHMH will have in place video-conferencing capabilities in 50% of counties to support distance learning needs by FY 2003.

5. To build a technologically proficient workforce.

Objectives

5.1   Provide all employees with access to training via the Internet and video/ audio conferencing by FY 2003.

- Complete a department-wide information technology training needs assessment to identify the needs of all employee by FY 2002.

- Publish a department-wide information technology training strategy by FY 2002.

- Develop a marketing plan to increase the awareness and availability in-house training opportunities by FY 2002.

5.2   Provide employees with appropriate information technology resources by FY 2003.

- Maintain annual minimum software standards pursuant to State standards.

- Provide information annually on minimum hardward standards based on State standards.

- Implement a department-wide distance learning plan designed to serve the need of all employees by FY 2003.

Major Initiatives

Health Insurance Portability and Accountability Act (HIPPA) – passed by the U.S. Congress in 1996, this law affects how federal, state and local governments interact with health insurance companies, medical service and product providers, patients and employers. The administrative simplification provisions of HIPAA require major changes to virtually all electronic systems that incorporate medical transactions, diagnostic and procedure codes, identifiers and electronic medical records. In addition, compliance with HIPAA security and privacy provisions is required.

Maryland eGovernment – enacted by the Maryland Legislature, the law requires that 50% of the Departments public information and services, including on-line licensing, be made available electronically by 2002, 65% by 2003 and 80% by 2004. Primarily, access will be through the Internet, but will also include other electronic means such as kiosks and voice activated telephone systems. DHMH is in the process of upgrading its information resources infrastructure to support services required by the legislation.

Cigarette Restitution Fund Program – responsible for the management, distribution and Tracking of the multi-million dollar award resulting from tobacco litigation settlement. Both the tobacco and cancer initiatives require the development if automated systems for data collection and analysis, tracking of resource utilization and program activities such as outcomes and performance objectives.

DHMH Network Enhancement – enhance the performance, capacity and security of the DHMH Network to support current system requirements and those of new initiatives, including eGovernment and the Health Insurance Portability and Accountability Act.

Distance Learning – expand DHMH distance learning systems including teleconferencing, audioconferencing, satellite down-link system and desktop video capabilities.

Centralized HARS – the DHMH AIDS Administration is designing and implementing a system to conduct remote surveillance using.

Teleworking – pursuant to state law, DHMH is working to increase the number of Department employees who telework from home or designated telework sites.

Office of Public Health and Assessment (OPHA) – provides programming, technical and statistical support to all DHMH Community and Public Health Administration programs. Provide data, technical and statistical support for other State agencies, Local Health Offices, federal government and private/non-profit organizations.

Public Health Data Network (PHDN) – integrated database system to provide public health data to public health officials.

Health Alert Network (HAN) – designed to provide connectivity to local emergency response agencies in the event of a bio-terrorism event.

Women, Infants and Childrens Program (WIC) – maintenance of the highest level of automation service in support of the Maryland WIC programs mission.

Breast and Cervical Cancer Program – utilizing information technology to electronically collect data on patients receiving cancer screening services, perform program evaluations and for surveillance purposes.

Maryland Cancer Registry – provides data analyses, evaluations and reports to various data users including local health departments, institutions and researchers.

Epidemiology and Disease Control Program – in collaboration with local health departments and other health care provides, monitor the occurrence of communicable diseases in the state, prevent the spread of communicable diseases and minimize their effect.

Reproductive and Prenatal Information and Data System (RAPJD) – enhance the infrastructurely providing immediate access to family planning and reproductive health client data. The system also provides aggregate data on selected demographics and service utilization characteristic for over 50,000 family planning clients.

Office of Food Protection and Consumer Health Services (OFPCHS) – goal to increase productivity, accuracy and consumer access via technology support.

Healthy Generations Program – establish a computer based program to support Public Health Nurse/Social Worker Case Management of "at risk" prenatal women, infants and children.

Maryland Primary Care (MPC) – provide timely and accurate data to facilitate enrollment of eligible recipients, to improve outreach efforts, assist providers and track enrollment for proper program management.

Office for Genetics and Children with Special Health Care Needs – requires data entry from newborn hearing screenings into a database and the generation of results to parents and physicians.

Laboratory Testing Database and Reporting – automating laboratory specimen registration, tracking, reporting and statistics.

Maryland Health Care Commission Health Data Analyses – enhancement of HMO quality report card system, nursing home report card system and hospital and ambulatory surgery center report card efforts.

Statewide Death Investigation System – implementation of a statewide automated death investigation system to more efficiently record, track and report demographic data of deceased persons by the office of the Chief Medical Examiner.

Conclusion

In the past, information resources involved main frame computer systems, computer operation service guides, data entry, printing reports and basic computer support. As technology advanced, the purview of information resources has expanded dramatically to include: the development and main-tenance of new systems, the development and support of local and wide area networks, the Internet/Intranet, electronic commerce, data administration and coordination, knowledge management, electronic forms, enterprise security, distance learning and information technology training. This has resulted in the need for strategic planning in order to ensure that current customer needs are met and that resources, both human and technological, are in place for the future. The DHMH Information Resources Manage-ment Plan was designed to assist the Department in achieving its public health goals.